

FIG. 1

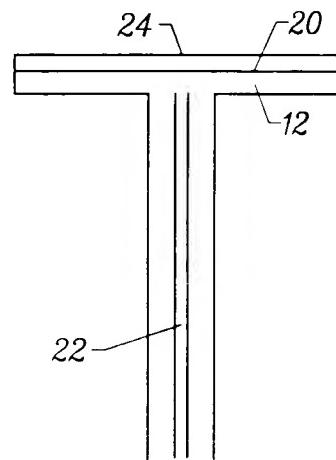


FIG. 2

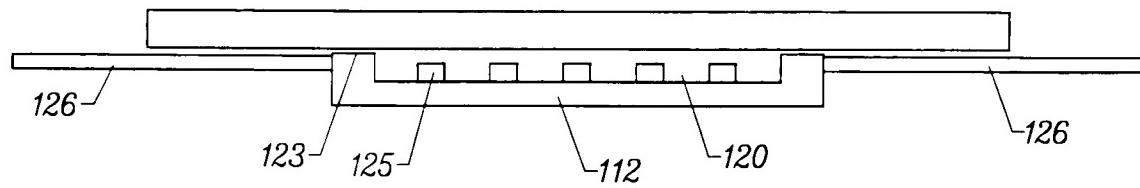


FIG. 3A

FIG. 3B
(Prior Art)

FIG. 3C

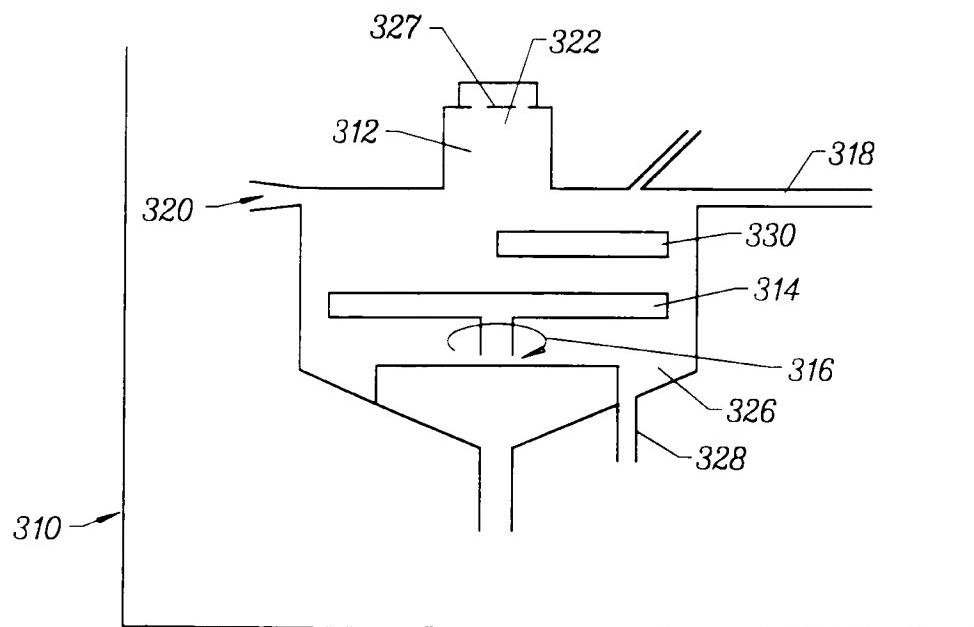


FIG. 5

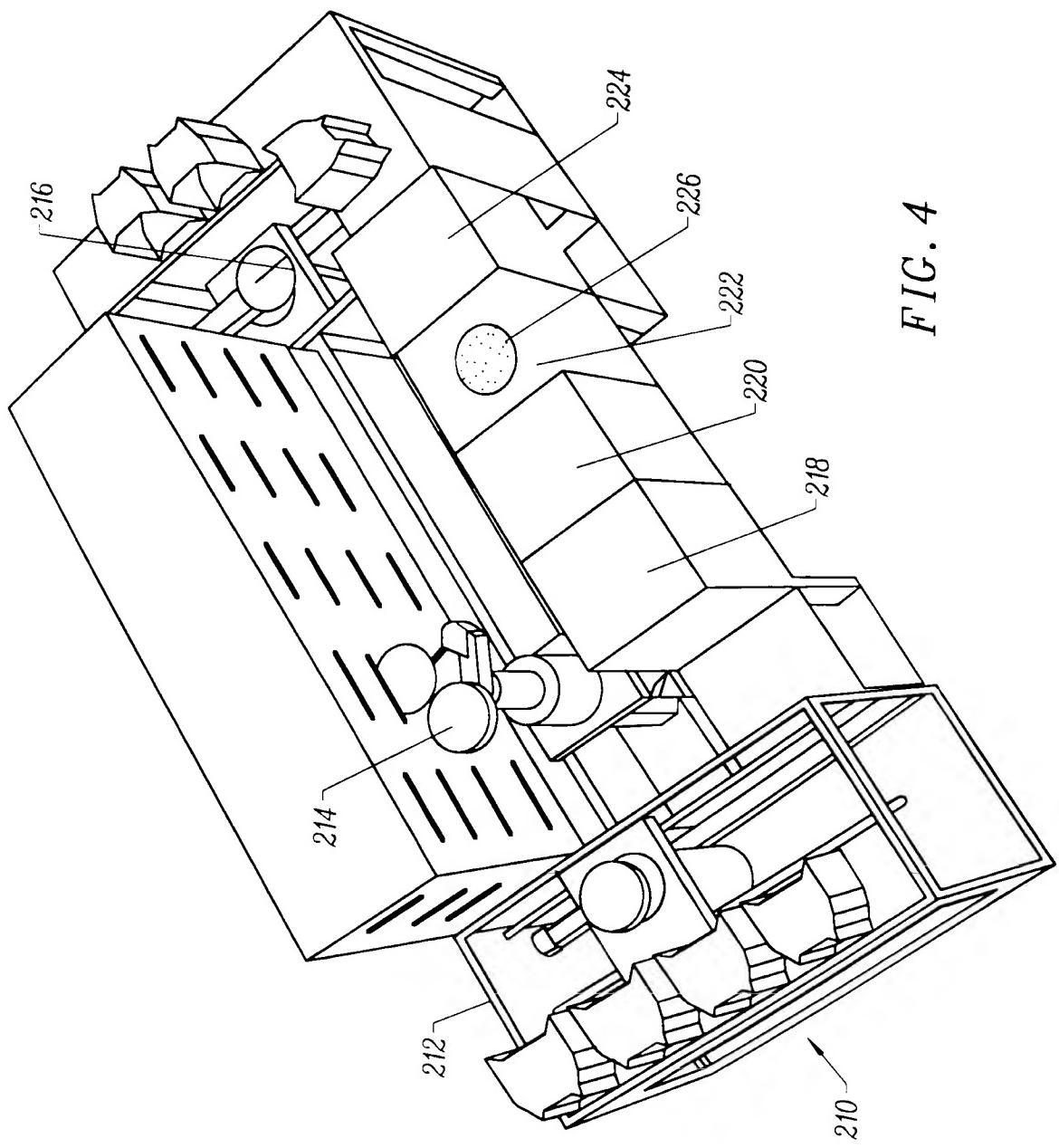


FIG. 4

+
4/6
Developer Chuck Surface Treatment Comparison: Backside Contamination
over $0.3\mu\text{m}$ after 1 hour ultrasonic IPA



FIG. 6
+
52097-6
52197-5
52197-4
52197-3
Control

Minimization of Surface Contact Area

Coating uniformity is not compromised when the wafer-to-chuck contact "dimples" are reduced by 50%.

Coat Parameter	Std Chuck	Reduced Dimple Chuck
X-Wafer Uniformity	7.5	6
W-W Uniformity	3.89	1.84

Coating Uniformity: Std Chuck vs Reduced Dimple Chuck

X-Wafer Uniformity W-W Uniformity

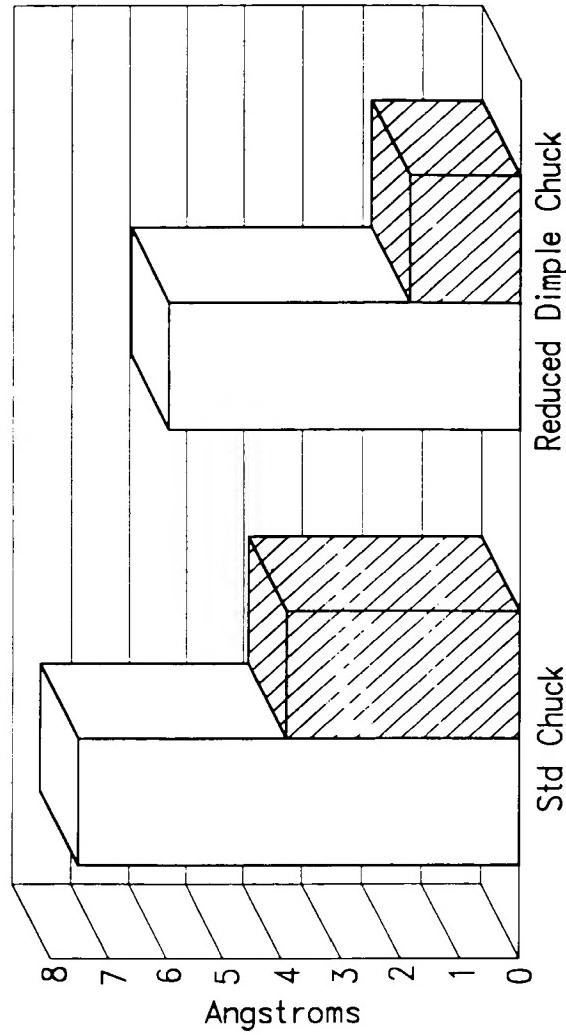


FIG. 7

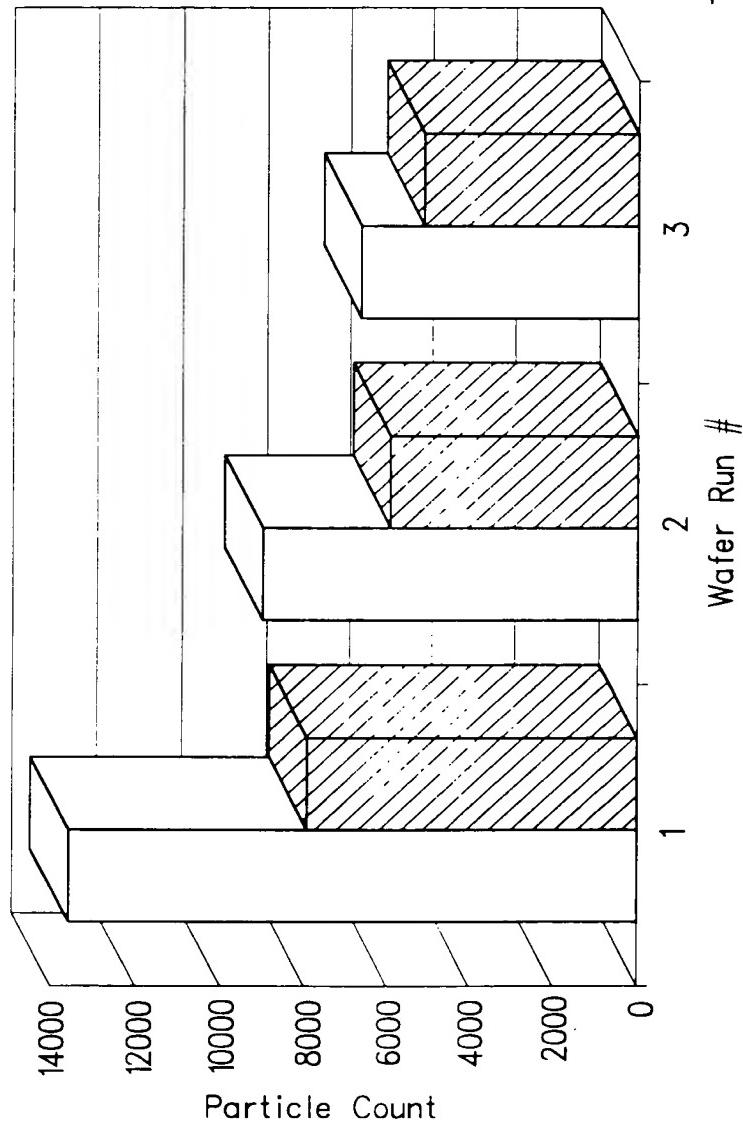
Minimization of Surface Contact Area

Significant reductions in backside contamination is achieved when reducing the number of wafer contact sites.

Wafer #	Std Chuck	Reduced Dimple Chuck	% Reduction
1	13587	7914	41.8
2	8997	5885	34.6
3	6524	5031	22.9

Standard Chuck vs Reduced Dimple Chuck

Std Chuck Reduced Dimple Chuck

FIG. 8
Wafer Run #